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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,812	02/08/2002	Yasukazu Iwasaki	040356-0424	8928

22428 7590 04/29/2005

FOLEY AND LARDNER  
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3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/067,812

Applicant(s)

IWASAKI ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4 and 9-13 is/are rejected.  
7) ☒ Claim(s) 5-8 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Remarks*

This Office action is responsive to applicant's amendment filed January 28, 2005.

Claims 1-13 are pending.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Baker (U.S. Pat. 4,365,006).

The rejection is maintained for the reasons of record and for the additional reasons to follow in view of applicant's amendment to the claims. The amendment to claim 1 now recites that the vaporizer is arranged in the exhaust gas circulation passage. In reply, the examiner takes an alternate reading of Baker under the doctrine of claim differentiation. The examiner interprets Baker as being readable on this limitation as follows: the vaporizer [16] is deemed equivalent to the claimed fuel injection mechanism which injects liquid fuel into the circulated exhaust gas, and the venturi nozzle [17] is deemed equivalent to the vaporizer arranged in the exhaust gas circulation passage. It appears to the examiner that the claims have been further amended in line with the configuration shown in Figure 1. While the vaporizer [4] is arguably arranged in the

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path of the exhaust gas circulation passage (as shown in Figure 1), this configuration is not found distinct from the configuration shown by Baker if the venturi nozzle [17] is held readable on a vaporizer, note that the venturi nozzle is similarly in the path of the circulated gas. A venturi nozzle's tapered configuration and compression of the passing fuel solution therein results in vaporization of the fuel solution into spray droplets.

Applicant's arguments have been fully considered, however they are not found persuasive. Applicant's argument that the vaporizer [16] of Baker is outside the of the conduit is deemed moot in view of the new position taken in this Office action that the venturi nozzle [17] (which is indeed positioned in the conduit) is both a structural and functional equivalent of the claimed vaporizer.

This Office action also takes the new position that Baker's "vaporizer" [16] is readable on the fuel injection mechanism. As to this fuel injection mechanism *vaporizing* the fuel before it is injected into the exhausted gas, and therefore not injecting *liquid* fuel [emphasis added], the examiner is of the counter position that the vaporized fuel is indeed of liquid state. The venturi nozzle mixes this liquid fuel with the exhausted *gas* [emphasis added] to form the vaporized spray droplets, such droplets also being in the liquid state. (col. 3 line 8-20)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 1 and 10-12 above, in view of Okamoto (U.S. Pat. 6,045,933).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 1 and 10-12 above, in view of Hsu (U.S. Pat. 5,747,185)

The rejection(s) based on Baker in view of Okamoto and Hsu are maintained for the reasons of record.

The examiner notes that arguments against the secondary references (Okamoto, Hsu) are noted to be directed solely to these references failing to remedy alleged deficiencies in Baker.

#### ***Allowable Subject Matter***

Claims 5-8 are maintained objected to as being dependent upon a rejected base claim, but would be allowable for the reasons already of if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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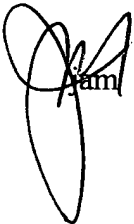

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be 'Julian', written over a circular stamp.

PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER